BRUHAT BANGALORE MAHANAGARA PALIKE

Name of the Work : Comprehensive Development for Roads and Drains In Ward No. 7 And 8 Under CMC & TMC Grants, Kodigehalli Sub-Division, Yelahanka Zone, Byatarayanapura Division.

BYATARAYANAPURA DIVISION

5th PART BILL

TEST REPORTS

TEJUS CONSULTANTS
CONSULTING ENGINEERS AND DESIGNERS
No.58 MIG, 6th Cross, 3rd Main
1st Stage, Basaveshwaranagar
Bangalore-560079
☎ 080 - 23287532
email: tejusconsultants@gmail.com

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	**Proposed Use**	PCC
Sample Location	At Site/Plant	**Date of Sampling**	04.11.2018
		Date of Testing	04.11.2018

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	100	100	3.33	96.67	95-100
20.00mm	1352	1452	48.40	51.60	30-70
10.00mm	968	2420	80.67	19.33	10-35
4.75mm	452	2872	95.73	4.27	0-5
Pan	128	3000	100.00	0.00	

Remarks : Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

NDP
AE(C21)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	**Proposed Use**	PCC
Sample Location	At Site/Plant	**Date of Sampling**	04.11.2018
		Date of Testing	04.11.2018

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	100	100	3.33	96.67	95-100
20.00mm	1352	1452	48.40	51.60	30-70
10.00mm	968	2420	80.67	19.33	10-35
4.75mm	452	2872	95.73	4.27	0-5
Pan	128	3000	100.00	0.00	

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

NDP
AE(NDP)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	04.11.2018
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	37 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	349 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	2mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	25 % to 35

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP
AE (NS)

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

RAM & COMPANY
S/W

TEJUS
CONSULTANTS

Test report on Compressive strength of Solid Block

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Cross sectional area	60000 mm2
Size of cube	400mm x 150mm x 200mm
No. of Block Tested	3
Reference IS code:	IS:2185 (Part 1)- 2005

Sl.No.	Date of Sampling	Date of testing	Area of Cube	Failure load	Compressive strength	Minimum Required compressive strength of individual units
			mm^2	KN	N/mm^2	N/mm^2
1	09.11.2018	09.11.2018	60000	310.00	5.17	5.00
2	09.11.2018	09.11.2018	60000	312.00	5.20	
3	09.11.2018	09.11.2018	60000	314.00	5.23	

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported reported within 90 days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	19.11.2018
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	39 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	342 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	2mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	25 % to 35

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

NDD
AE(W)

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (River Sand/ M sand)	**Proposed Use**	concrete
Location/Source	At Site/Plant	**Date of Sampling**	19.11.2018
Period of Soaking	24 hours	**Date of Testing**	19.11.2018

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	658	682	672	
B	Weight of oven - dry sample gm.	648	672	663	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1690	1706	1697	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.667	2.677	2.652	**2.665**
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.543	1.488	1.357	**1.463**

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP
AE(Ist)

M/S RAM & CO

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors

SIEVE ANALYSIS

Total Weight:	**3000** gms		
Type of Material	**Fine aggregate (River Sand/ M sand)**	**Proposed Use**	concrete
Sample Location	At Site/Plant	**Date of Sampling**	19.11.2018
		Date of Testing	19.11.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	**100**
4.75 mm	215	215	7.17	92.83	**90 - 100**
2.36 mm	298	513	17.10	82.90	**75 - 100**
1.18 mm	420	933	31.10	68.90	**55 - 90**
0.600 mm	456	1389	46.30	53.70	**35 -59**
0.300 mm	800	2189	72.97	27.03	**8-30**
0.150 mm	650	2839	94.63	5.37	**0 - 10**
Pan	161	3000			-

Remarks : Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight:	10000 gms

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	Concrete
Sample Location	Plant/At site	**Date of Sampling**	19.11.2018
		Date of Testing	19.11.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	**0**	**0**	**0**	**100**	**100**
20.00 mm	**272**	**272**	**2.72**	**97.28**	**95 - 100**
10.00 mm	**4835**	**5107**	**51.07**	**48.93**	**25 - 55**
4.75 mm	**4250**	**9357**	**93.57**	**6.43**	**0 - 10**
Pan	**643**	**10000**			

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP
AE(QT)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight:	10000 gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	At Site/Plant	**Date of Sampling**	19.11.2018
		Date of Testing	19.11.2018

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	552	552	5.52	94.48	90-100
10.0	4658	5210	52.10	47.90	40-85
4.75	4525	9735	97.35	2.65	0-10
Pan	265	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M15
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	19.11.2018	26.11.2018	7 days	8.125	22500	210	9.33	9.24
2	19.11.2018	26.11.2018	7 days	8.130	22500	208	9.24	
3	19.11.2018	26.11.2018	7 days	8.135	22500	206	9.16	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, B.B.M.P.
Bangalore.

RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M15
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	19.11.2018	17.12.2018	28days	8.135	22500	340	15.11	15.21
2	19.11.2018	17.12.2018	28days	8.120	22500	342	15.20	
3	19.11.2018	17.12.2018	28days	8.140	22500	345	15.33	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

RAM & COMPANY

Assistant Executive Engineer
Kodigehalli Sub Division.
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

PAVER BLOCK(COBBLE STONE) TEST REPORT

Client	Bruhat Bangalore Mahanagara Palike
Contractor:	M/S Ram and Company, Engineers & Contractors.
Name of Work:	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
No.of Sample Tested:	3
Date of Testing:	20.11.2018
Technical Reference:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.

Sl. No.	Details	FLEXURAL STRENGTH, fcr in N/mm^2	Charecteristic Copressive strength fck in N/mm^2	Average Charecteristic Copressive strength fck in N/mm^2
1	Paver Block	3.74	28.60	28.58
2	Paver Block	3.74	28.62	
3	Paver Block	3.74	28.52	

Results: Copressive strength of Paver Block(N/mm^2)= **28.58**

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported reported within 90 days from the date of testing.

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, B.B.M.P.
Bangalore.

Consultant's Representative

RAM & COMPANY

TEJUS
CONSULTANTS

PAVER BLOCK(COBBLE STONE) TEST REPORT

Client	Bruhat Bangalore Mahanagara Palike
Contractor:	M/S Ram and Company, Engineers & Contractors.
Name of Work:	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
No.of Sample Tested:	3
Date of Testing:	20.11.2018
Technical Reference:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.

Sl. No.	Details	FLEXURAL STRENGTH, fcr in N/mm^2	Charecteristic Copressive strength fck in N/mm^2	Average Charecteristic Copressive strength fck in N/mm^2
1	Paver Block	3.77	29.00	28.40
2	Paver Block	3.70	28.00	
3	Paver Block	3.72	28.20	

Results: Copressive strength of Paver Block(N/mm^2)=	**28.40**

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory.
3. Any Query regarding the report must be reported reported within 90 days from the date of testing.

TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engr
Kodigehalli Sub Divn
Yelahanka Zone, BBMP
Bangalore.

M/S. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Sample Location	At Site/Plant	Date of Sampling	8.12.2018
		Date of Testing	8.12.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	210	210	7.00	93.00	90 - 100
2.36 mm	306	516	17.20	82.80	75 - 100
1.18 mm	422	938	31.27	68.73	55 - 90
0.600 mm	486	1424	47.47	52.53	35 -59
0.300 mm	710	2134	71.13	28.87	8-30
0.150 mm	632	2766	92.20	7.80	0 - 10
Pan	234	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, BBMP
Bangalore.

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	PCC
Location/Source	At Site/Plant	Date of Sampling	8.12.2018
Period of Soaking	24 hours	Date of Testing	8.12.2018

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	648	679	658	
B	Weight of oven - dry sample gm.	641	670	648	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1682	1701	1690	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.660	2.648	2.667	2.658
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.092	1.343	1.543	1.326

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engi
Kodigehalli Sub Divis
Yelahanka Zone, B.B.
Bangalore.

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 07 Kodigehalli, Kodigehalli Sub Division
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	Proposed Use	PCC
Sample Location	At Site/Plant	Date of Sampling	8.12.2018
		Date of Testing	8.12.2018

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	250	250	8.33	91.67	95-100
20.00mm	1225	1475	49.17	50.83	30-70
10.00mm	942	2417	80.57	19.43	10-35
4.75mm	452	2869	95.63	4.37	0-5
Pan	131	3000	100.00	0.00	

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

RAM & COMPANY

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	8.12.2018
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	38 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	349 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	2mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	25 % to 35

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS CONSULTANTS

GRADATION FOR WMM
(As per MORT&H 400-11)

Name of Work	:	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S Ram and Company, Engineers & Contractors.
Date of Testing	:	**09/12/2018**
Type of Mix	:	WMM
Sample I/D	:	WMM 1

Sample Location:	At plant	**Date of Sampling:**	**09/12/2018**
Type of material & Purpose:	WMM	**Date of testing:**	**09/12/2018**
		Oven Dry Wt.(gms):	10000.0

IS Sieve size in mm	Weight retained (gm)	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
53	0	0	0.00	100.00	100.00
45	615	615	6.15	93.85	95-100
22.4	2520	3135	31.35	68.65	60-80
11.2	1782	4917	49.17	50.83	40-60
4.75	1452	6369	63.69	36.31	25-40
2.36	1354	7723	77.23	22.77	15-30
0.6	862	8585	85.85	14.15	8.0-22.0
0.075	842	9427	94.27	5.73	0-8
Pan	573				
Total	10000				

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

RAM & COMPANY

TEJUS CONSULTANTS

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	M/s Tejus Consultants
Contractor	M/S Ram and Company, Engineers & Contractors.

Type of Material	WMM	**Proposed Use**	WMM
Sample Location	At plant	**Date of Sampling**	09/12/2018
		Date of Testing	09/12/2018

Size of aggregate		Flakiness Index		Elongation Index	
Passing through IS sieve, mm	Retained on IS sieve, mm	Total wt. of aggregate retained on sieves (A) gms.	Wt. of aggregate passing from Flakiness gauge (B) gms	Wt. of aggregate retained on Flakiness gauge (C) gms	Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	850	75	775	50
16.0	12.5	1200	115	1085	120
12.5	10.0	450	76	374	62
10.0	6.3	500	65	435	38
Total		**3000**	**331**	**2669**	**270**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	11.03
Elongation Index(%):	10.12
Combined FI+EL (%)	21.15

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

M/S RAM & COMPANY

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bengalore.

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	9.12.2018
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	39 Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	349 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	2mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	27.00%	25 % to 35

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhath Bangalore Mahanagara Palike
Project	Improvments to Roads and Drains at Kodigehalli villege, Tatanagar and Surrounding Areas in Ward No 07 Kodigehalli, Kodigehalli Sub Division
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight in gm:	3000

SIEVE ANALYSIS

Type of Material	40 mm down size	**Proposed Use**	PCC
Sample Location	At Site/Plant	**Date of Sampling**	9.12.2018
		Date of Testing	9.12.2018

IS Sieve Size	Weight Retained in gm	Cum. Weight Retained in gm	Cumulative Weight Retained in %	Cumulative Weight Passing in %	Specific Limits as per IS 383-1970 (RA-2007) % of Passing For Graded Aggregate of Nominal Size
80.00mm	0	0	0.00	100.00	100
63.00mm	0	0	0.00	100.00	-
40.00mm	250	250	8.33	91.67	95-100
20.00mm	1225	1475	49.17	50.83	30-70
10.00mm	942	2417	80.57	19.43	10-35
4.75mm	452	2869	95.63	4.37	0-5
Pan	131	3000	100.00	0.00	

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP

M/S RAM & COMPANY

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	**3000** gms		
Type of Material	**Fine aggregate (River Sand/ M sand)**	**Proposed Use**	concrete
Sample Location	At Site/Plant	**Date of Sampling**	9.12.2018
		Date of Testing	9.12.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	210	210	7.00	93.00	90 - 100
2.36 mm	306	516	17.20	82.80	75 - 100
1.18 mm	422	938	31.27	68.73	55 - 90
0.600 mm	486	1424	47.47	52.53	35 -59
0.300 mm	710	2134	71.13	28.87	8-30
0.150 mm	632	2766	92.20	7.80	0 - 10
Pan	234	3000			-

Remarks : Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

AEE(H)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/S RAM & COMPANY

TEJUS CONSULTANTS

AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	M/S Ram and Company, Engineers & Contractors.		
Proposed Use	WMM	**Date of Sampling**	**09/12/2018**
Sample Location	**At plant**	**Date of Testing**	**09/12/2018**

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	352.00	348.00	350.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	270.00	278.00	275.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	82.00	70.00	75.00	
4	Aggregate Impact Value (%)	(Wc/Wa)* 100	23.30	20.11	21.43	
5	Average Aggregate impact value	(%)	21.61			Max - 30 %

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NPP
AE(L&T)

M/s. RAM & COMPANY

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

Project	**Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 , Byatarayanapura, Kodigehalli Sub Division**
Client	**BRUHAT BANGALORE MAHANAGARA PALIKE**
Consultant	**M/s Tejus Consultants**
Contractor	**M/S Ram and Company, Engineers & Contractors.**

Field Dry Density test by Sand Replacement Method (As per IS 2720 (Part 28)

Date of Testing	**10/12/2018**
Layer no. or level	WMM I layer
Depth of hole	250mm

Field density:	**1**	**2**	**3**
Wt. of wet material from hole (Ww) gms.	6162	6110	6208
Wt. of sand+cylinder before pouring (w1) gms.	14000	14000	14000
Wt. of sand+cylinder after pouring (w2) gms.	9736	9732	9715
Wt. of sand in cone (w3) gms.	835	842	830
Wt. of sand in hole (w4)=(w1-w2-w3) gms.	3429	3426	3455
Bulk density of sand (ys)gm/cc	1.31	1.32	1.31
Bulk density of material(i.e. wt. of the wet material) (yb)=(Ww/w4*(ys))gm/cc	2.35	2.35	2.35
Moisture meter reading(moisture content)	12.45	12.56	12.57
Result			
FDD(Wt.of the dry material)=(100yb/100+mc)gm/cc	2.09	2.09	2.09
MDD	2.13	2.13	2.13
OMC	12.60%	12.60%	12.60%
% of Compaction Obtained	98.28	98.19	98.17
Compaction Required	98%	98%	98%

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

MDD

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	11.12.2018
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	38Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	350 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	3mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

AEE(NZ)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Location/Source	At Site/Plant	Date of Sampling	11.12.2018
Period of Soaking	24 hours	Date of Testing	11.12.2018

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	648	678	658	
B	Weight of oven - dry sample gm.	641	670	648	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1682	1701	1690	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.660	2.659	2.667	2.662
G	Absorption (%) $\frac{(A-B)*100}{B}$	1.092	1.194	1.543	1.276

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

M/S. RAM & COMPANY

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	**3000** gms		
Type of Material	**Fine aggregate (River Sand/ M sand)**	**Proposed Use**	concrete
Sample Location	At Site/Plant	**Date of Sampling**	11.12.2018
		Date of Testing	11.12.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	210	210	7.00	93.00	90 - 100
2.36 mm	306	516	17.20	82.80	75 - 100
1.18 mm	422	938	31.27	68.73	55 - 90
0.600 mm	486	1424	47.47	52.53	35 -59
0.300 mm	710	2134	71.13	28.87	8-30
0.150 mm	632	2766	92.20	7.80	0 - 10
Pan	234	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS
Authorised Signatory

NDP
AE (Tej)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/S RAM & CO

TEJUS CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike				
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.				
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore				
Contractor	M/S Ram and Company, Engineers & Contractors.				
Total Weight:	10000	gms			

SIEVE ANALYSIS

Type of Material	20 mm down size		**Proposed Use**	Concrete	
Sample Location	Plant/At site		**Date of Sampling**	11.12.2018	
			Date of Testing	11.12.2018	
IS Sieve Size	**Weight Retained**	**Cum. Weight Retained**	**Cum. % Retained**	**Cum. % Passing**	**Spec. Limit (%) Passing**
40.00 mm	0	0	0	100	100
20.00 mm	269	269	2.69	97.31	95 - 100
10.00 mm	4830	5099	50.99	49.01	25 - 55
4.75 mm	4223	9322	93.22	6.78	0 - 10
Pan	678	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

AEE (Tech)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.	
Consultants	TEJUS CONSULTANTS	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	At Site/Plant	**Date of Sampling**	11.12.18
		Date of Testing	11.12.18

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	549	549	5.49	94.51	90-100
10.0	4682	5231	52.31	47.69	40-85
4.75	4522	9753	97.53	2.47	0-10
Pan	247	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP
AE(ET)

M/S RAM & COMPANY

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	11.12.18	18.12.18	7 days	8.129	22500	280	12.44	12.52
2	11.12.18	18.12.18	7 days	8.126	22500	282	12.53	
3	11.12.18	18.12.18	7 days	8.137	22500	283	12.58	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

AEE(RZ)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/s. RAM

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	11.12.18	25.12.2018	14days	8.130	22500	410	18.22	18.33
2	11.12.18	25.12.2018	14days	8.138	22500	412	18.31	
3	11.12.18	25.12.2018	14days	8.146	22500	415	18.44	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/S. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	11.12.18	08.01.2019	28days	8.130	22500	453	20.13	20.13
2	11.12.18	08.01.2019	28days	8.138	22500	455	20.22	
3	11.12.18	08.01.2019	28days	8.146	22500	451	20.04	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP
AE(Tech)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

M/S. RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES	
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	11.12.18	08.01.2019	28days	8.130	22500	450	20.00	20.06
2	11.12.18	08.01.2019	28days	8.138	22500	451	20.04	
3	11.12.18	08.01.2019	28days	8.146	22500	453	20.13	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP
AE(W)

Assistant Engineer,
Kodigehalli Sub Division
Yelahanka Zone, B.B.M.P
Bangalore.

M/S RAM & COMPANY

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.	
Consultants	TEJUS CONSULTANTS	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	At Site/Plant	**Date of Sampling**	12.12.18
		Date of Testing	12.12.18

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	**100**
12.5	546	546	5.46	94.54	**90-100**
10.0	4682	5228	52.28	47.72	**40-85**
4.75	4522	9750	97.50	2.50	**0-10**
Pan	250	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

RAM & CO. ENGINEERS & CONTRACTORS

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, B.B.M.P.
Bangalore.

TEJUS CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.
Total Weight:	10000 gms

SIEVE ANALYSIS

Type of Material	20 mm down size	Proposed Use	Concrete
Sample Location	Plant/At site	Date of Sampling	12.12.2018
		Date of Testing	12.12.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	27	27	0.27	99.73	95 - 100
10.00 mm	4830	4857	48.57	51.43	25 - 55
4.75 mm	4223	9080	90.80	9.20	0 - 10
Pan	920	10000			

Remarks : Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

M/S RAM & COMPANY

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, [illegible]
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Location/Source	At Site/Plant	Date of Sampling	12.12.2018
Period of Soaking	24 hours	Date of Testing	12.12.2018

Sl. No.	Test Property	TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.	655	679	657	
B	Weight of oven - dry sample gm.	641	670	648	
C	Weight of Pycnometer Filled with water gm	1275	1275	1275	
D	Weight of Pycnometer + sample + water gm	1682	1701	1690	
E	Bulk specific gravity $\frac{B}{(C+A-D)}$	2.585	2.648	2.678	**2.637**
G	Absorption (%) $\frac{(A-B)*100}{B}$	2.184	1.343	1.389	**1.639**

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

TEJUS CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	3000 gms		
Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Sample Location	At Site/Plant	Date of Sampling	12.12.2018
		Date of Testing	12.12.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	100
4.75 mm	215	215	7.17	92.83	90 - 100
2.36 mm	306	521	17.37	82.63	75 - 100
1.18 mm	422	943	31.43	68.57	55 - 90
0.600 mm	486	1429	47.63	52.37	35 -59
0.300 mm	710	2139	71.30	28.70	8-30
0.150 mm	632	2771	92.37	7.63	0 - 10
Pan	229	3000			-

Remarks : Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP
AE(07)

Assistant E...
Kodigehalli Sub...
Yelahanka Zone, ...
Bangalore

M & COMPANY

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	12.12.2018
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	35Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	352 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	3mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	28.00%	25 % to 35

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

NDD
DE(Cst)

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, B.B.
Bangalore

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	12.12.18	19.12.18	7 days	8.129	22500	282	12.53	12.56
2	12.12.18	19.12.18	7 days	8.126	22500	285	12.67	
3	12.12.18	19.12.18	7 days	8.137	22500	281	12.49	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

RAM & COMPANY

AE (DC-1)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	12.12.18	09.01.2019	28days	8.130	22500	454	20.18	20.07
2	12.12.18	09.01.2019	28days	8.138	22500	451	20.04	
3	12.12.18	09.01.2019	28days	8.146	22500	450	20.00	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP
AE (W7)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike	
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.	
Consultants	TEJUS CONSULTANTS	
Contractor	M/S Ram and Company, Engineers & Contractors.	
Total Weight:	10000	gms

SIEVE ANALYSIS

Type of Material	**12.5 mm down size**	**Proposed Use**	Concrete
Sample Location	At Site/Plant	**Date of Sampling**	13.12.18
		Date of Testing	13.12.18

IS Sieve Size (in mm)	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
20.0	0	0	0	100	100
12.5	549	549	5.49	94.51	90-100
10.0	4682	5231	52.31	47.69	40-85
4.75	4522	9753	97.53	2.47	0-10
Pan	247	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike		
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.		
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore		
Contractor	M/S Ram and Company, Engineers & Contractors.		
Total Weight:	10000	gms	

SIEVE ANALYSIS

Type of Material	20 mm down size	**Proposed Use**	Concrete
Sample Location	Plant/At site	**Date of Sampling**	13.12.2018
		Date of Testing	13.12.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing
40.00 mm	0	0	0	100	100
20.00 mm	272	272	2.72	97.28	95 - 100
10.00 mm	4830	5102	51.02	48.98	25 - 55
4.75 mm	4223	9325	93.25	6.75	0 - 10
Pan	675	10000			

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

M/S. RAM

NDP

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	Bruhat Bangalore Mahanagara Palike
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	Tejus Consultants, Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SIEVE ANALYSIS

Total Weight:	**3000** gms		
Type of Material	**Fine aggregate (River Sand/ M sand)**	**Proposed Use**	concrete
Sample Location	At Site/Plant	**Date of Sampling**	13.12.2018
		Date of Testing	13.12.2018

IS Sieve Size	Weight Retained	Cum. Weight Retained	Cum. % Retained	Cum. % Passing	Spec. Limit (%) Passing (Zone-II)
10.00 mm	0	0	0	100.00	**100**
4.75 mm	210	210	7.00	93.00	**90 - 100**
2.36 mm	306	516	17.20	82.80	**75 - 100**
1.18 mm	422	938	31.27	68.73	**55 - 90**
0.600 mm	486	1424	47.47	52.53	**35 -59**
0.300 mm	710	2134	71.13	28.87	**8-30**
0.150 mm	632	2766	92.20	7.80	**0 - 10**
Pan	234	3000			-

Remarks : ✓ Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

NDP AE(WT)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT

Clients	BRUHAT BENGALORE MAHANAGARA PALIKE
Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Consultants	TEJUS CONSULTANTS Basaveshwar Nagar Bangalore
Contractor	M/S Ram and Company, Engineers & Contractors.

SPECIFIC GRAVITY AND WATER ABSORPTION

FINE AGGREGATE (IS-2386-PART-3)

Type of Material	Fine aggregate (River Sand/ M sand)	Proposed Use	concrete
Location/Source	At Site/Plant	Date of Sampling	13.12.2018
Period of Soaking	24 hours	Date of Testing	13.12.2018

Sl. No.	Test Property		TRIAL - 1	TRIAL - 2	TRIAL - 3	
A	Weight of sturated surface dry sample gm.		652	679	658	
B	Weight of oven - dry sample gm.		641	670	648	
C	Weight of Pycnometer Filled with water gm		1275	1275	1275	
D	Weight of Pycnometer + sample + water gm		1682	1701	1690	
E	Bulk specific gravity	B / (C + A - D)	2.616	2.648	2.667	2.644
G	Absorption (%)	(A - B) *100 / B	1.716	1.343	1.543	1.534

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

NDP Refund

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

Test Report on Cement

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Sample ID	Cement
Date of Sample Tested	13.12.2018
Sample Supplied By	Agency

Sl.No.	Descriptions	Test Method as per IS	Test Result	Requirements as per IS: 12269-1987
1	a) Initial Setting Time	IS-4031 (Part-5)	36Minutes	Not Less than 30 Minutes
	b) Final Setting Time	IS-4031 (Part-5)	349 Minutes	Not More than 600 Minutes
2	Soundness	IS-4031 (Part-3) By the Le-Chatelier method	4mm	Not More than 10 mm
3	Standard Consistency	IS-4031 (Part-4)	29.00%	25 % to 35

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory /Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

TEST REPORT ON COMPRESSIVE STRENGTH OF CONCRETE CUBES

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client	Bruhat Bangalore Mahanagar Palike
Consultant	TEJUS CONSULTANTS
Contractor	M/S Ram and Company, Engineers & Contractors.
Grade of concrete:	M20
Size of cube:	150x150x150 mm
Reference IS code:	IS:516-1959

Sl.No.	Date of Casting	Date of testing	Age of Test	Weight of Cube	Area of Cube	Failure load	Compressive strength	Avg. Compressive strength
				Kg	mm^2	KN	N/mm^2	N/mm^2
1	13.12.18	20.12.18	7 days	8.129	22500	279	12.40	12.46
2	13.12.18	20.12.18	7 days	8.126	22500	282	12.53	
3	13.12.18	20.12.18	7 days	8.137	22500	280	12.44	

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

RAM & COMPANY

NDP
AE(L-2)

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS CONSULTANTS

AGGREGATE IMPACT VALUE
(IS: 2386 Part - 4)

Project	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.		
Client	BRUHAT BANGALORE MAHANAGARA PALIKE		
Consultant	M/s Tejus Consultants		
Contractor	M/S Ram and Company, Engineers & Contractors.		
Proposed Use	BC	Date of Sampling	14/12/2018
Sample Location	At plant	Date of Testing	14/12/2018

Sl. No.	Description		Test No. 1	Test No. 2	Test No. 3	Spec Limit (%)
1	Wt. of stone pieces (dry) passing IS Sieve 12.5mm but retained in IS sieve 10mm (gm)	(Wa)	392.00	378.00	384.00	
2	Wt. of the fraction retained in IS sieve 2.36mm after the impact test (gm)	(Wb)	306.00	296.00	298.00	
3	Wt. of the fraction passed in IS sieve 2.36mm after the impact test (gm)	(Wc)	86.00	82.00	86.00	
4	Aggregate Impact Value (%)	(Wc/Wa)*100	21.94	21.69	22.40	
5	Average Aggregate impact value	(%)	22.01			Max - 30 %

Remarks : Satisfactory / Not Satisfactory

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

TEJUS CONSULTANTS

Authorised Signatory

M/S. RAM & CO

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

TEJUS
CONSULTANTS

FLAKINESS AND ELONGATION INDICES (IS 2386, PART 1)

Project :	**Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.**
Client :	**BRUHAT BANGALORE MAHANAGARA PALIKE**
Consultant :	**M/s Tejus Consultants**
Contractor:	**M/S Ram and Company, Engineers & Contractors.**

Type of Material	BC	**Proposed Use**	**BC**
Sample Location	At plant	**Date of Sampling**	**14/12/2018**
		Date of Testing	**14/12/2018**

Size of aggregate		**Flakiness Index**		**Elongation Index**	
Passing through IS sieve, mm	**Retained on IS sieve, mm**	**Total wt. of aggregate retained on sieves (A) gms.**	**Wt. of aggregate passing from Flakiness gauge (B) gms**	**Wt. of aggregate retained on Flakiness gauge (C) gms**	**Wt. of aggregate retained on Elongation gauge after retained on Flakiness gauge(D)gms**
63.0	50.0	0	0	0	0
50.0	40.0	0	0	0	0
40.0	31.5	0	0	0	0
31.5	25.0	0	0	0	0
25.0	20.0	0	0	0	0
20.0	16.0	625	73	552	60
16.0	12.5	1200	112	1088	81
12.5	10.0	500	72	428	58
10.0	6.3	500	56	444	46
Total		**2825**	**313**	**2512**	**245**

Note: Minimum 200 Pcs should be taken on each fraction of test

Flakiness Index(%):	11.08
Elongation Index(%):	9.75
Combined FI+EL (%)	20.83

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

M/S. RAM & CO. ENGINEERS & CONTRACTORS

NDP DECLED

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore.

GRADATION FOR BC
(As per MORT&H 500-18,Grading-2)

Name of Work	:	**Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyamma layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.**
Client	:	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant	:	M/s Tejus Consultants
Contractor	:	M/S Ram and Company, Engineers & Contractors.
Date of Testing	:	14/12/2018
Type of Mix	:	BC
Sample I/D	:	BC3

Sample Location:	At plant	Date of Sampling:	14/12/2018
Type of material & Purpose:	BC	Date of testing:	14/12/2018
		Oven Dry Wt.(gms):	1200.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	138	138.0	11.50	88.50	79 - 100
9.50	106	244.0	20.33	79.67	71 - 95
4.75	220	464.0	38.67	61.33	53 - 71
2.360	124	588.0	49.00	51.00	42 - 58
1.180	120	708.0	59.00	41.00	34 - 48
0.600	102	810.0	67.50	32.50	26 - 38
0.300	110	920.0	76.67	23.33	18 - 28
0.150	86	1006.0	83.83	16.17	12 - 20
0.075	94	1100.0	91.67	8.33	4 - 10
Pan	100.0				
Total	1200.0				

Note:
1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

M/s. RAM

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.
Bangalore

TEJUS CONSULTANTS
No. 58, 3rd main, 6th Cross, 1st Stage KHB Colony, Basaveshwaranagar, Bangalore - 560079, O : +91 80 23287532, tejusconsultants@gmail.com

BITUMEN CONTENT AND GRADATION DETERMINATION OF BITUMINOUS CONCRETE MIX

me of Work :	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
ent :	BRUHAT BANGALORE MAHANAGARA PALIKE
nsultant :	M/s Tejus Consultants
ntractor :	M/S Ram and Company, Engineers & Contractors.
te of Testing :	15/12/2018
pe of Mix :	BC
mple I/D :	BC1

TEJUS CONSULTANTS

DETERMINATION OF BITUMEN CONTENT

Description	Trail 1	Trail 2
Weight of Mixture before extraction, g	950	920
Weight of Mixture after extraction, g	900	872
Weight of Bitumen	50	48
Weight of filter paper before extraction, g	2.00	2.00
Weight of filter paper after extraction, g	4.10	4.00
Weight of fines, g	1.40	1.70
Weight of Bitumen & fines	51.40	49.70
Bitumen content in %	5.41	5.40
Average Bitumen content in %	**5.41**	
0. Minimum Bitumen content in %	**5.40**	

GRADATION FOR BC AFTER EXTRACTION

(As per MORT&H 500-18,Grading-2)

Sample Location:	At site	Date of Sampling:	15/12/2018
Type of material & Purpose:	**BC**	Date of testing:	15/12/2018
		Oven Dry Wt.(gms):	900.0

IS Sieve size in mm	Weight retained	Cummulative weight retained (gm)	Cummulative % of retained	Cummulative % of passing	Specification limits
19.00	0	0	0.00	100.00	100.00
13.20	91	91.0	10.11	89.89	79 - 100
9.50	117	208.0	23.11	76.89	71 - 95
4.75	132	340.0	37.78	62.22	53 - 71
2.360	118	458.0	50.89	49.11	42 - 58
1.180	105	563.0	62.56	37.44	34 - 48
0.600	70	633.0	70.33	29.67	26 - 38
0.300	76	709.0	78.78	21.22	18 - 28
0.150	56	765.0	85.00	15.00	12 - 20
0.075	70	835.0	92.78	7.22	4 - 10
Pan	65.0				
Total	900.0				

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

Authorised Signatory

Assistant Executive Engineer
Kodigehalli Sub Division
Yelahanka Zone, BBMP
Bangalore.

DETERMINATION OF RATE OF SPREAD TACK COAT

Name of Work :	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
Client :	BRUHAT BANGALORE MAHANAGARA PALIKE
Consultant :	M/s Tejus Consultants
Contractor :	M/S Ram and Company, Engineers & Contractors.
Date of Testing :	15/12/2018
Type of Mix :	Tack coat
Sample I/D :	1

Determination	Unit	Test No		
		1	2	3
Size of Plate (mxm)	Mt	0.30 x .30	0.30 x .30	0.30 x .30
Area of Plate (a)	Sq.mtr	0.09	0.09	0.09
Initial Wt of empty Plate (b)	Kg	0.800	0.780	0.810
Final weight of plate after application of tack Coat (c)	Kg	0.823	0.803	0.833
Weight of tack Coat (d=c-b)	Kg	0.023	0.023	0.023
Rate of spread of tack coat	Kg/sq.m	0.250	0.256	0.251
Average	Kg/sq.m	0.252		
Specified Limit	Kg/sq.m	**0.250 Kg/sq.m**		

Note:

1. The report shall not be reproduced, except in full, without the written approval of the laboratory.
2. The results indicated above are based on the tests carried out on the samples received in the laboratory/Site.
3. Any Query regarding the report must be reported reported within 15days from the date of testing.

M/s. RAM & COMPANY

TEJUS CONSULTANTS

Authorised Signatory

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.

TEJUS
CONSULTANTS

KERB STONE (CORE) TEST REPORT

	:	Bruhat Bangalore Mahanagara Palike
ctor	:	M/S Ram and Company, Engineers & Contractors.
f Work	:	Improvements to Roads and drains at Kempapura, Yogeshnagar, Kariyanna layout and Surrounding Areas in ward No 07 - Byatarayanapura, Kodigehalli Sub Division.
ample Tested	:	3
Testing	:	20.12.2018
ical Reference	:	IS:516-1959 (Reaffirmed 1999), SP-24:1983.
of Concrete	:	M_{15}

	Dia of Core D (mm)	Height of Core H (mm)	Core Wt (Kg)	Density of Core (kg / m^3)	H / D	Correction factor (Based on H/D)	Failure Load (kN)	Core Strength (N/mm^2)	Correction Factor for the Dia. (Strength of the	Corrected Cylinder Compressive Strength (N/mm^2)	Equivalent Cube Compressive Strength (N/mm^2)
	50.00	85.00	0.400	2396.69	1.70	0.960	32.00	16.30	17.60	16.90	21.12
	50.00	85.00	0.410	2456.60	1.70	0.960	31.50	16.04	17.33	16.63	20.79
	50.00	85.00	0.415	2486.56	1.70	0.960	31.80	16.20	17.49	16.79	20.99

report shall not be reproduced, except in full, without the written approval of the laboratory.
results indicated above are based on the tests carried out on the samples received in the laboratory.
Query regarding the report must be reported reported within 90 days from the date of testing.

TEJUS CONSULTANTS

Consultant's Representative

Assistant Executive Engineer,
Kodigehalli Sub Division,
Yelahanka Zone, B.B.M.P.,
Bangalore.